

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A computer system for performing expedited startup
2 operations, comprising:
3 a processor;
4 a system startup memory coupled to the processor;
5 a basic input/output system (BIOS) memory coupled to the processor, the BIOS memory
6 comprising instructions for initiating startup operations; and
7 a hard disk drive storage device, comprising
8 a storage media comprising at least one drive platter for storing a program module
9 that is loaded in the system startup memory during startup operations,
10 a non-volatile cache memory for storing a copy of the program module stored on
11 the storage media, and
12 a microcontroller for controlling access to the storage media and the non-volatile
13 cache memory, said microcontroller configured to retrieve the program module from the
14 non-volatile cache memory in response to a read request from the processor if the storage
15 media is not operational when the read request is received by the hard disk drive storage
16 device.

1 2. (Cancelled).

1 3. (Currently Amended) The computer system of claim 1 [[2]], where the cache
2 memory comprises a battery-backed CMOS memory.

1 4. (Original) The computer system of claim 1, where the program module
2 comprises an initial program load module that is loaded into the system startup memory and
3 executed by the processor to load an operating system for the computer system.

1 5. (Original) The computer system of claim 4, where the initial program load
2 module comprises a master boot record, a boot load program and a kernel program.

6. (Original) The computer system of claim 1, where the hard disk drive storage device comprises a RAID array.

7. (Currently Amended) The computer system of claim 1 [[2]], where the hard disk drive storage device further comprises a microcontroller memory for storing a module that maintains coherency between the storage media and the non-volatile cache memory.

8. (Original) The computer system of claim 7, further comprising a threshold table stored in the hard disk drive storage device, said threshold table containing, for at least one sector of the storage media, a minimum threshold count value, wherein the module clears a sector in the non-volatile cache memory only if a cache miss count meets or exceeds the minimum threshold count value for that sector.

9. (Currently Amended) A method for retrieving a program module from a first storage device during startup operations, comprising:
executing BIOS instructions for initiating startup operations;
initiating operating system load operations by requesting the [[a]] program module from the [[for a]] first hard disk drive storage device comprised of a first storage media and a non-volatile cache storage media; and
retrieving said program module from the non-volatile cache storage media if the first storage media is not operational to provide said program module.

10. (Currently Amended) The method of claim 9, wherein the non-volatile cache storage media comprises a cache memory.

11. (Original) The method of claim 10, where the cache memory comprises a battery-backed CMOS memory.

12. (Original) The method of claim 9, where the program module comprises an initial program load module that is loaded into a system startup memory and executed by a processor to load an operating system for a computer system.

1 13. (Original) The method of claim 12, where the initial program load module
2 comprises a master boot record, a boot load program and a kernel program.

1 14. (Currently Amended) The method of claim 9, further comprising maintaining
2 cache coherency between at least a part of the first storage media and the non-volatile cache
3 storage media.

1 15. (Original) The method of claim 9, further comprising executing the program
2 module to load an operating system into a system memory.

1 16. (Currently Amended) In an information handling system, a disk drive storage
2 device, comprising:
3 at least one drive platter for storing a program module,
4 a non-volatile cache memory for storing a copy of the program module, and
5 a microcontroller for controlling access to the drive platter and the non-volatile cache
6 memory, said microcontroller configured to retrieve the program module from the non-volatile
7 cache memory in response to a read request from a processor if the drive platter is not
8 operational when the read request is received by the disk drive storage device.

1 17. (Cancelled).

1 18. (Currently Amended) The disk drive storage device of claim 16, where the non-
2 volatile cache memory comprises a battery-backed CMOS memory.

1 19. (Original) The disk drive storage device of claim 16, where the program
2 module comprises a master boot record that is loaded into a system startup memory and executed
3 by a processor to load an operating system.

1 20. (Currently Amended) The disk drive storage device of claim 16, where the
2 microcontroller executes a coherence program to maintain coherency between the drive
3 platter and the non-volatile cache memory.